

Supply Chain Council Awards
for Excellence in Supply Chain
Operational Excellence
United States Marine Corps
Logistics War on Terrorism

2002 Submission

March 1, 2002

Foreword

March 1, 2002

This document contains the United States Marine Corps' submission for the 2002 *Supply Chain Council Awards for Excellence in Supply Chain Operations and Management*. This submission describes the Marine Corps' sweeping initiatives to reform its logistics processes.

Our effort to improve the supply chain was born from the need to improve logistics responsiveness to our customer the operating forces. This was, in part, the result of our heightened awareness of the rapidly changing world of commercial logistics. More important was the need to create an agile and flexible supply chain that would enable the Marine Corps to respond to new crises in the 21st century and to fulfill our role as the **Nation's "911" Force**.

The need for a responsive supply chain was validated by the events that unfolded after September 11th as we embarked on the global war on terrorism. A supply chain that can respond instantly to a wide variety of requirements, ranging from force protection in Afghanistan to humanitarian missions worldwide, is critical to our Nation's ability to win the war! Intense operations with little or no time to preposition forces in the traditional sense require a sea-based force with exceptional logistics response capability. The SCOR model has provided the US Marine Corps the ability to design and initiate implementation of such a system.

While still in the early stages of a multi-year effort, the results of our logistics enterprise-wide supply chain improvements have enhanced our ability to fight the war on terrorism. This effort has involved individuals from across the Marine Corps, as well as strategic partners including commercial firms, academia, and other Department of Defense agencies. The scope of the supply chain evolution underscores our sustained commitment to making the changes necessary to ensure that the Marine Corps provides the best logistics support possible to the operating forces. Using the SCOR template, edited to our unique missions, has dramatically improved our ability to successfully wage the global war on terrorism!



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Executive Summary

Collectively, the attacks of September 11, 2001, and the ensuing war on terrorism served as a catalyst for the transformation of a nation. For U.S. Marine Corps logistics, there were two primary effects. The effect of September 11 was the real-life validation that the Marine Corps' adoption of the Supply Chain Operational Reference (SCOR) model as a template for improved logistics support was correct. In addition, the ensuing war on terrorism meant that the operational testing and implementation of that approach and the initiatives undertaken must be expedited.

Marine Corps logistics must support increased expeditionary requirements and, therefore, meet an even greater need for enhanced supply chain performance, especially in the areas of agility, shorter cycle times, reduced cost, effective and timely information, and improved quality of products and services. USMC logistics is applying the SCOR model approach for reengineering to enhance operational performance in the following areas:

- υ Information management
 - ™ To streamline its logistics applications portfolio, the Marine Corps is mapping its legacy systems to the SCOR model. Through this process, the Marine Corps has identified and eliminated 36 unneeded and/or redundant systems, and has recommended an additional 11 for retirement.
 - ™ Developing an architecture that will enable shared data across the logistics enterprise.
- υ Supply chain management
 - ™ Established supply chain goals, identified key attributes, and developed a balanced scorecard with which to measure success and areas of future focus to achieve greater effectiveness of the logistics system.

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- ™ Collaborated with supply chain partners to position inventory closer to the point of sale and reduced wholesale customer wait time by 20 days.
 - ™ Developed a logistics business model that defines end-to-end processes for fulfilling customer demands for products and services.
 - υ Life-cycle management
 - ™ Reduced Marine Corps secondary reparable (SECREP) retail inventory levels by \$18 million and decreased wholesale inventory by \$59 million between October 2000 and November 2001.
 - ™ Decreased customer wait time (CWT) by 60 percent (9 days) between November 2000 and November 2001.
 - ™ Decreased repair cycle time by 70 percent (20 days) for repairable items by centralizing repair management (between November 2000 and November 2001).
 - ™ Completed 95 percent of repair tasks in 100 days or fewer in November 2001, compared to 133 days in November 2000.
 - ™ Reduced maintenance workload by eliminating redundant steps in the maintenance processes, realigning tasks, and eliminating non-value added maintenance tasks.
 - ™ Reduced fuel consumption of Marine Corps' non-tactical vehicle fleet by 16 percent.

The Marine Corps is overhauling its supply chain by using a SCOR approach to both redefine strategic objectives and improve logistics functionality. The following plans and programs are a result of this approach to continually improve supply chain operations through increased SCOR compliance:

- υ Marine Corps Logistics Campaign Plan—Aligns strategic goals with specific objectives and tasks, and tracks these goals to clear-cut actions.
- υ Integrated Logistics Capability—Successfully applies the SCOR template to assess effectiveness of existing operations and adjusts them to the new strategic environment—by
 - ™ using supply chain management best practices and analytical tools to improve supply chain performance,
 - ™ developing a more effective operational architecture for the new strategic environment,

- ™ reducing redundant legacy logistics systems and processes, and
- ™ developing initiatives and metrics to implement this new operational architecture.
- υ Global Combat Support System, Marine Corps—The physical implementation of the future information architecture developed to align with the efficiencies and effective outcomes as defined in the SCOR-compliant Integrated Logistics Capability.

Even before the events of September 11, during the implementation of these changes, we encountered challenges that require enhanced management capability. Through our collaboration with the Supply Chain Council, the Marine Corps recognized that transformational change could not occur without support and buy-in from our active duty and civilian Marines. As the Marine Corps transforms, we continue to address the following internal focus areas:

- υ Cultural issues—reluctance to change, reliability concerns, and resistance to accepting services provided by others.
- υ New business practices—difficulty aligning organizations with new business rules and communicating change throughout the Marine Corps.

The current DoD distribution and transportation process is largely based upon old business practices and processes. These are changing as all of DoD reviews, evaluates, and modernizes their internal and external support processes. Yet in applying today's process to support forces employed for the War on Terrorism in Afghanistan, a priority 01ⁱ resupply request averaged 44 days to reach the requesting unit. In conducting an internal USMC analysis of this problem, the response time could be reduced to 23 days without any major changes to DoD agency or service practices through the full implementation of our new SCOR-derived business practices. Additionally, if current programmed and planned changes to DoD agencies and services are achieved, the 44-day response has the potential to be reduced to less than ten days. The Marine Corps is working diligently to ensure that the best possible support is provided to the 18-year-old rifleman who is responding to our Nation's call.

The Marine Corps is creating an enterprise-wide solution to a multibillion-dollar supply chain. This enterprise includes the commercial equivalents of products and inventory, maintenance and repair operations, distribution, engineering and construction, health care, and transportation. This effort is freeing critically needed resources that can be invested to enhance warfighter capability on the battle-grounds of the future. The war on terrorism is sure to continue for many years. It will require multiple simultaneous engagements and agile response to asymmetric threats. Through our partnership with the Supply Chain Council and the

ⁱ A priority 01 resupply request can be submitted only by a unit engaged in support of combat operations.

knowledge of SCOR model methodologies, Marine Corps logistics will provide the equipment, information, and technology required to meet the future needs of our expeditionary forces.

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Section 1

General Information and Project Complexity

(1) SUBMITTING ORGANIZATION

United States Marine Corps, Installations and Logistics Department

(2) ORGANIZATIONAL UNIT

United States Marine Corps, Installations and Logistics Department, Logistics Plans, Policies, and Strategic Mobility Division (USMC/LP)

(3) MISSION DESCRIPTION

Provide logistics support to Marine Corps forces to enable them to accomplish assigned missions across the full spectrum of expeditionary operations and warfare.¹

(4) AWARD CATEGORY

Supply Chain Operational Excellence—Department of Defense

(5) DESCRIPTION OF THE SUPPLY CHAIN AND THE PROCESSES

This description of the Marine Corps Supply Chain discusses both the supply chains in use today, and the supply chain evolving for use tomorrow.

Current Supply Chain

There are currently two supply chains in the Marine Corps, a supply chain to support units in garrison and one to support units that are deployed.

Current Marine Corps enterprise-wide supply chain operations can be broken down into three fundamental levels: general support suppliers, direct support suppliers, and supported units. These levels utilize SCOR processes such as plan, source, make, and deliver to provide and move goods and services through this supply chain.

◦ *General support suppliers* include commercial and DoD suppliers that

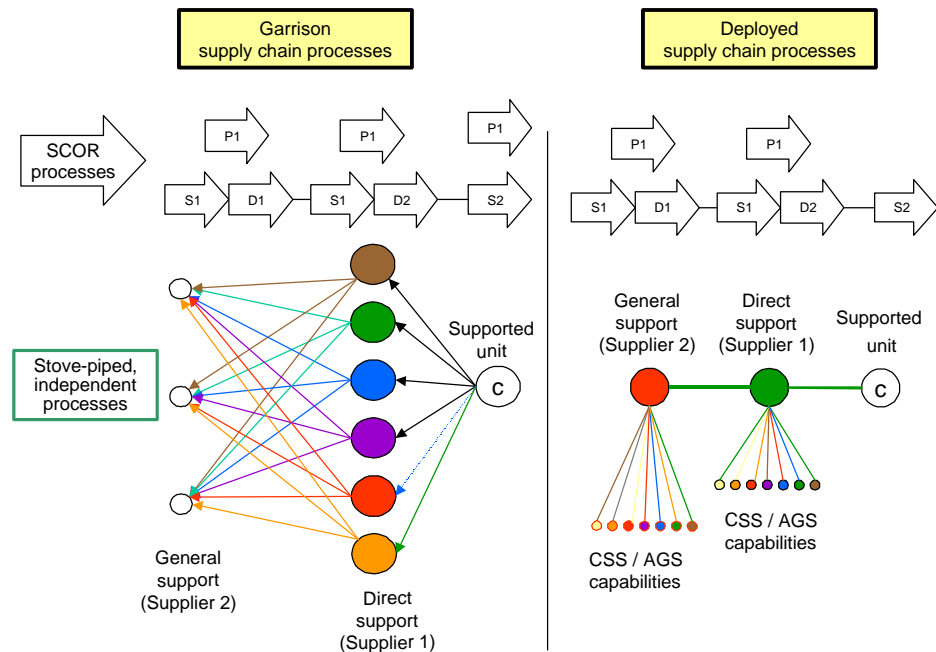
¹ 2002 USMC/LP Campaign Plan, 16 January 2002.

support the USMC. These organizations form a complex network providing goods and services to garrison-level direct support suppliers.

- v *Direct support suppliers* include USMC operations such as supply, maintenance, transportation, and health care services that directly support Marine Corps forces. Multiple direct support suppliers provide a variety of goods and services to the supported units in two different operating environments: in garrison and deployed. Figure 1-1 illustrates these two scenarios.
- v In the garrison scenario, the *supported unit* must go through a variety of interfaces to receive goods and services from a complex network of direct support suppliers. In the deployed scenario, the direct support supplier handles the interfaces and processes, and supports the unit as one source.

The current processes require the supported unit to follow many different procedures to obtain logistics support in garrison. This process is shown on the left side of Figure 1-1. This is both time-consuming and expensive, and distracts the unit from performing its primary mission. For example, a supported unit may use an electronic interface with a supplier to order consumable items and use a paper-based process to obtain maintenance from another supplier. This can become very complicated. For instance, in order for the three Marine expeditionary forces (MEFs) to fulfill their inventory management responsibilities, they must handle 1,500–2,000 repair parts and personnel support transactions every day.

Figure 1-1. Current Supply Chain Processes



Note: AGS = aviation ground support; CSS = combat service support; P1 = plan supply chain; S1 = source a stocked product; S2 = source a make-to-order product; D1 = deliver a stocked product; D2 = deliver a make-to-order product.

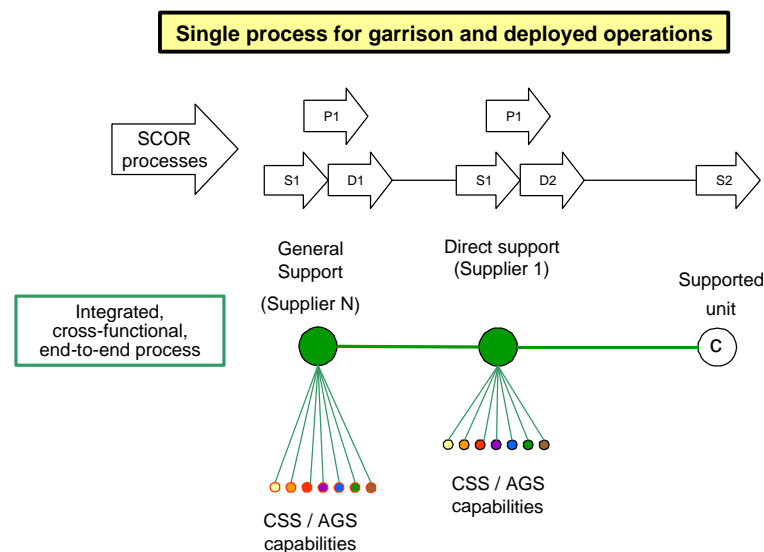
The New Supply Chain

USMC logistics, enhanced by SCOR model concepts, is improving the entire supply chain processes end-to-end (E2E). The new concept of operations for the supply chain focuses on fulfilling overall demands of the supported units with a single interface and source of supply, whether the units are deployed or in garrison. This concept is illustrated in Figure 1-2. The objective is to “train as we fight.” Therefore, the focus is to support all forward forces using the most optimal process and apply this concept throughout the Marine Corps supply chain, even to units in garrison.

The new process (Figure 1-2) will consolidate all logistics support processes at the *supported unit* level and shift the management of supply chain processes back to the *direct support suppliers*. Thus, *supported units* will have a single process and a single interface to receive all logistics services.

In turn, *direct support suppliers* will be solely responsible for managing all logistics between general support suppliers and the supported unit.

Figure 1-2. New Supply Chain Process



Note: AGS = aviation ground support; CSS = combat service support; P1 = plan supply chain; S1 = source a stocked product; S2 = source a make-to-order product; D1 = deliver a stocked product; D2 = deliver a make-to-order product.

Developing the New Supply Chain

Through our partnership with the Supply Chain Council (SCC), the Marine Corps was instrumental in the modification of the SCOR model to include the “Return” process. The addition of the “Return” process more accurately articulates the DoD application of the SCOR model and recognizes that DoD supply chains do not end at “Deliver”. Often times our supply chain requires the return of retrogrades to be

used as a future source of supply. Our partnership was further enhanced by our voluntary participation as the lead for the “Return” Committee of the Supply Chain Council. This partnership validates the Marine Corps commitment to the Supply Chain Council and the knowledge that the SCOR methodology is core to the success of supply chain management within the Marine Corps and the DoD.

(6) SUPPLY CHAIN PARTNER ORGANIZATIONS— EXTERNAL

As part of the Marine Corps Supply Chain focus and in accordance with SCOR guidance, a key success factor was collaboration and leverage of knowledge with our supply chain partners. Table 1-1 lists the external supply chain partners involved in this effort. The number of participants varies directly with the level of involvement of each partner during the implementation of our initiatives. The number of participants reported represent the average level of involvement from these partners working on our logistics initiatives over the past year.

Table 1-1. External Supply Chain Partners

Partner	Number of participants
Defense Logistics Agency (DLA), Springfield, VA	10
Office of Naval Research, Arlington, VA	2
Pennsylvania State University (PSU), Center for Logistics Research, State College, PA	10
Southwest Research Institute, San Antonio, TX	3
U.S. Army Tank-Automotive and Armaments Command (TACOM), Warren, MI	5

A total of about 35 participants from the following contracting firms have partnered with the Marine Corps to identify and characterize the best management practices and potential software solutions that can result in “best in class” performance in support of the Integrated Logistics Capability (ILC) effort:

- υ GRCI (AT&T), Vienna, VA
- υ KPMG, Washington, DC
- υ LABBLEE Corporation, Cambridge, MA
- υ Northrop Grumman Information Technology (NGIT), Stafford, VA
- υ Northrop Grumman Information Technology (NGIT), Herndon, VA
- υ SAIC, Washington, DC
- υ Sapient Corporation, Cambridge, MA

- υ SRA, Washington, DC
- υ Stanley Associates, Washington, DC.

(7) FUNCTIONAL ORGANIZATIONS—INTERNAL

More than 175 individuals from the Marine Corps participate in the Marine Corps supply chain initiatives. The majority of these are from the Installations and Logistics Department, Marine Corps Materiel Command, and the Operating Forces.

Other internal partner organizations that are the key to the success of the Marine Corps logistics include the following:

- υ Deputy Commandant, Aviation
- υ Deputy Commandant, Manpower and Reserve Affairs
- υ Deputy Commandant, Programs and Resources
- υ Deputy Commandant, Plans, Policies, and Operations
- υ Director, Command, Control, Communications, and Computers
- υ Marine Corps Recruit Depot, Parris Island, SC
- υ 1st Force Service Support Group
- υ 1st Marine Division
- υ 2nd Force Service Support Group
- υ 2nd Marine Aircraft Wing
- υ 3rd Force Service Support Group

These organizations represent a broad, cross-functional teaming arrangement that includes internal buyers, suppliers, and policymakers.

(8) PARTNER POINTS OF CONTACT

The Marine Corps' primary points of contact for partner organizations are the following:

Lieutenant General Gary S. McKissock
Deputy Commandant, Installations and Logistics
(703) 695-8570

Robert Hammond
Assistant Deputy Commandant, Installations and Logistics
(703) 695-8570

Brigadier General Robert Dickerson
Director, Logistics Plans, Policies, and Strategic Mobility Division
(703) 695-5434

Susan Kinney
Deputy Director, Logistics Plans, Policies, and Strategic Mobility Division
(703) 695-5434

Colonel Robert Love
Head, Integrated Logistics Capability Center
(703) 695-5939

Colonel Michael Boyd
Head, Engineer Advocacy Center
(703) 695-9969

Colonel Robert DeStafney
Head, Logistics Capabilities Center
(703) 695-8900

Francis Frank
Head, Logistics Distribution Center
(703) 695-7851

Colonel Samuel Ferguson
Head, Logistics Operations and Sustainment Center
(703) 695-8873

Colonel Richard Nixon
Head, Logistics Vision and Strategy Center
(703) 695-6101

Section 2

Implementation

(1) SELECTION OF SUPPLY CHAIN PROJECT

Not only did the events of September 11, 2001, validate the logistics initiatives the USMC is developing and implementing, but the ensuing war on terrorism highlighted and expedited the need to resolve problems inherent in ongoing practices.

Our focus for expedited improvements included three areas as follows:

- υ information management,
- υ supply chain management, and
- υ life-cycle management.

Numerous issues required immediate analysis and resolution so that our expeditionary forces could achieve true return on investment from logistics. The key issues for these focus areas that were highlighted by September 11 and the war on terrorism are listed in Table 2-1. The table highlights these key issues and the results achieved to date.

Table 2-1. Issues Highlighted by September 11

Issues	Results
Information management	
<ul style="list-style-type: none">• Numerous similar functions yet disparate systems• Low connectivity among systems• Inflexible operational architecture	<ul style="list-style-type: none">• Retired 36 legacy logistics systems and have recommended an additional 11 for retirement. More are forthcoming.• Developing a shared data architecture across the logistics enterprise• Adopted SCOR vocabulary
Supply chain management	
<ul style="list-style-type: none">• Processes not directly aimed at solving problems for supported units• Poor connectivity among processes• Low confidence in logistics support to the field	<ul style="list-style-type: none">• Developed supply chain goals, key attributes, and a balanced scorecard• Decreased customer wait time by 20 days by collaborating with supply chain partners to position inventory closer to the point of sale• Developed a logistics business model that defines end-to-end processes for fulfilling customer demands for products and services

Issues	Results
Life-cycle management	
<ul style="list-style-type: none"> • High failure rate (low mean time between failure [MTBF]) • High maintenance workload • Short life cycles • High fuel usage and costs 	<ul style="list-style-type: none"> • Decreased SECREP retail inventory levels by \$18 million and wholesale inventory by \$59 million (10/00–11/01) • Decreased median CWT by 9 days (11/00–11/01) • Decreased median repair cycle time for reparable by 20 days (11/00–11/01) • Reduced maintenance workload by overhauling maintenance processes • Reduced fuel consumption of Marine Corps non-tactical vehicle fleets by 16 percent.

The results that are shown in Table 2-1 came about from using the SCOR approach to create an enterprise-wide solution of the multibillion-dollar Marine Corps supply chain. Specifically, the programs implemented as a result of this SCOR approach are

- v *The Marine Corps Logistics Campaign Plan (MCLCP)*—It aligns strategic goals with specific objectives and tasks, and tracks these goals to clear-cut actions.
- v *The Integrated Logistics Capability (ILC)*—It uses the SCOR framework to assess existing operations and adjusts them to the new strategic environment by
 - ™ using supply chain management best practices and analytical tools to improve supply chain performance,
 - ™ developing a more effective operational architecture for the new strategic environment,
 - ™ reducing redundant legacy logistics systems and processes, and
 - ™ developing initiatives and metrics to implement this new operational architecture.
- v *Global Combat Support System, Marine Corps (GCSS-MC)*—This is the physical implementation of the information architecture developed in ILC. It demonstrates the physical capability of information and information systems to be linked into an integrated network.

These programs individually address the overarching goal: to improve the performance of the enterprise-wide supply chain. The objectives noted above and the criticality of mission success were further validated in the post-September 11 environment.

(2) DURATION OF THE PROJECT

The duration of this project is primarily defined by the timelines of its three major programs: the Marine Corps Logistics Campaign Plan, the Integrated Logistics Capability, and the Global Combat Support System, Marine Corps.

Although these timelines give specific milestones for implementation, the project duration is ongoing. It is continuous throughout the life cycle of logistics processes, including the plan, source, make, deliver, and return aspects of logistics support.

Through our partnership with the SCOR Council, commercial corporations, and academia, the Marine Corps recognizes that transformational change does not have an end point. Instead, it is a continuous process of evaluation, measurement, and realignment to achieve the desired outcome. For the Marine Corps, the desired outcome is providing the best logistics support possible to the operating forces.

MCLCP Timeline

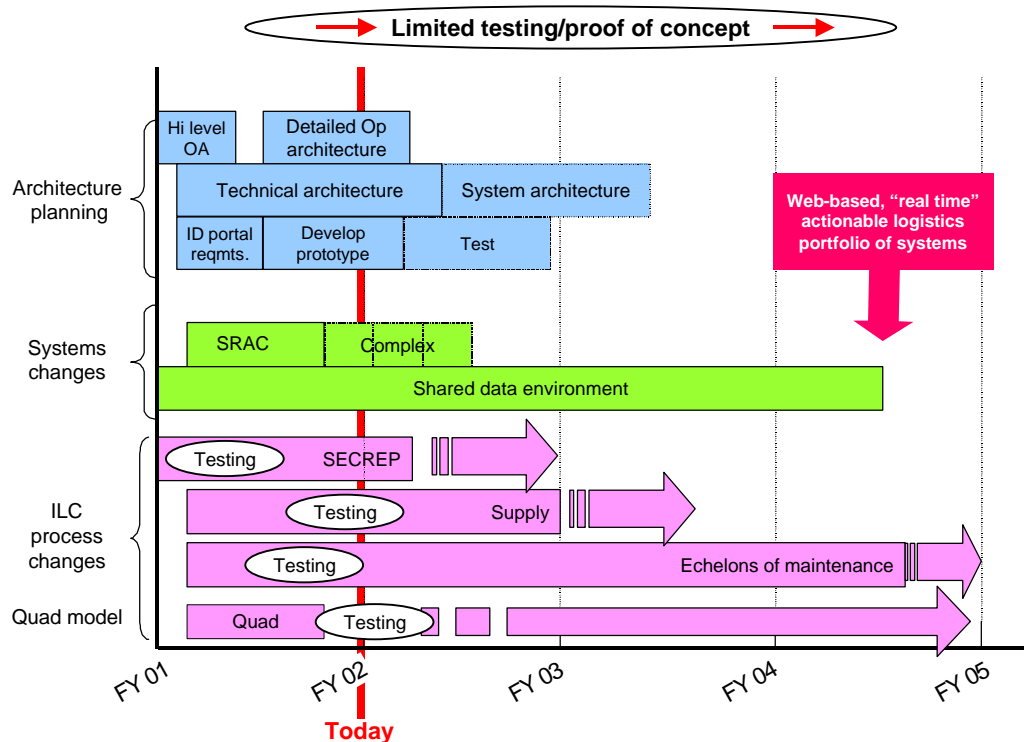
The collection of strategic goals, objectives, and tasks into the Marine Corps Logistics Campaign Plan started in 1998. They were further refined following completion of the SCOR process reference model. The schedule for MCLCP is

- υ development of Campaign Plan—1998 through January 2002; the latest plan was approved January 2002, and
- υ implementation of Campaign Plan tasks—present through 2005.

ILC Timeline

The ILC was initially established in 1999 to examine information systems. In 2001, it was redirected to review, update, streamline, and align logistics processes that encompass all of supply chain management—a unique and enormous effort given the magnitude and expeditionary nature of the Marine Corps. The Marine Corps supply chain must be able to support a multitude of sustained expeditionary operations from sea-bases or existing infrastructures ashore, or any combination thereof, at all levels and intensities, regardless of the size of the mission or the supported force. The ILC is now comprised of several component efforts discussed in Section 2-3 of this application. Figure 2-1 illustrates the scope and timeline for and current progress of the ILC.

Figure 2-1. High-Level ILC Timeline



GCSS-MC Timeline

GCSS-MC will be implemented into a two-phased approach:

- υ Phase 1—FY 2002: Development of a core portfolio of current programs and development of a new initiatives portfolio. This phase also includes demonstration of prototypes to support system design.
- υ Phase 2—FY 2002–2005: Execution of CSS execution portfolio and CSS decision portfolio. This phase also includes implementation and integration of system modules.

(3) PROCESS USED TO COMPLETE THE PROJECT

The Marine Corps is achieving enterprise-wide improvements in its supply chain in the areas of information management, supply chain management, and life-cycle management. These improvements are progressing via three major programs:

- υ *The Marine Corps Logistics Campaign Plan*—The MCLCP reflects the overarching framework for USMC logistics. The MCLCP was developed to articulate the logistics strategy for achieving the current and future vision of the Marine Corps. The goals, objectives, and tasks outlined in

this plan are designed to position or evolve specific logistics functions and capabilities of the entire Marine Air-Ground Task Force (MAGTF).

- υ *Integrated Logistics Capability*—Whereas the MCLCP reflects the overarching framework for this project, ILC uses the SCOR framework to paint the picture for the “To-Be” state of logistics support.
- υ *Global Combat Support System, Marine Corps*—GCSS-MC is an overall initiative to modernize and transform Marine Corps logistics information systems. It is the information technology (IT) solution that will satisfy the requirements promulgated by ILC. It is designed as a portfolio approach. It will ensure an enterprise-wide view of logistics IT and eliminate stove-pipes and redundancy. Additionally, each project within the portfolio can be linked to a discrete set of capabilities needed to perform combat service support to the Marine Corps.

MCLCP

The MCLCP is the strategic plan that links Marine Corps’ overarching supply chain goals to specific objectives and tasks. This concept institutionalizes the processes identified in the SCOR template. It has four strategic goals:

1. Enhance and develop logistics support capabilities to support operational concepts.
2. Enhance the quality of the logistics workforce.
3. Enhance Combat Service Support Element (CSSE) advocacy.
4. Increase logistics responsiveness, effectiveness, and efficiency in logistics processes and procedures.

All tasks are linked to Marine Corps strategic goals and objectives and are continually tracked in a central database to measure success.

The MCLCP provides a structured framework in which to make improvements and track progress. For example, the Plan translated recent government initiatives to decrease fuel consumption and greenhouse gas emissions into a specific goal and task in the Plan. The goal created in the plan is to enhance support in an expeditionary environment. The task to support this goal is to utilize more fleet and tactical vehicles that use less fossil fuel. This task has already produced positive results with a 16 percent reduction in fuel consumption in our non-tactical vehicle fleet.

ILC

The ILC is a far-reaching program aimed at reinventing supply chain processes in order to improve performance and meet the operational needs of the Marine Corps now and in the future.

ILC is further organized into several initiatives. Applying the SCOR methodology, each initiative of the ILC has specific “outcome”-oriented metrics. ILC initiatives include

- υ using SCOR to develop a New Logistics Operational Architecture (OA) including
 - ™ process architecture,
 - ™ information systems architecture,
 - ™ planning architecture,
- υ developing a balanced scorecard (BSC) based on SCOR metrics,
- υ applying the Quadrant Model to analyze supply processes, and
- υ conducting proof-of-concept initiatives.

PARTNERING WITH PENNSYLVANIA STATE UNIVERSITY AND OTHER LOGISTICS LEADERS

The first step of ILC was to conduct a study that teamed the USMC with supply chain experts from the commercial sector and academia. This study used the Supply Chain Operational Reference (SCOR) model to identify commercial logistics best practices and tools to enable supply chain improvements.

As a result of this initial study, USMC logistics developed nine recommendations to modernize logistics and move toward a more effective operational architecture:

- υ Reengineer logistics information technology.
- υ Streamline information technology (IT) acquisition.
- υ Move Secondary Repairables (SECREPs) and 4th Echelon of Maintenance (EOM) management to Marine Corps Materiel Command.
- υ Move 2nd/3rd Echelons of Maintenance to the intermediate level.
- υ Move selected supply functions from the using unit level to the intermediate level.
- υ Institutionalize the Quadrant Model.

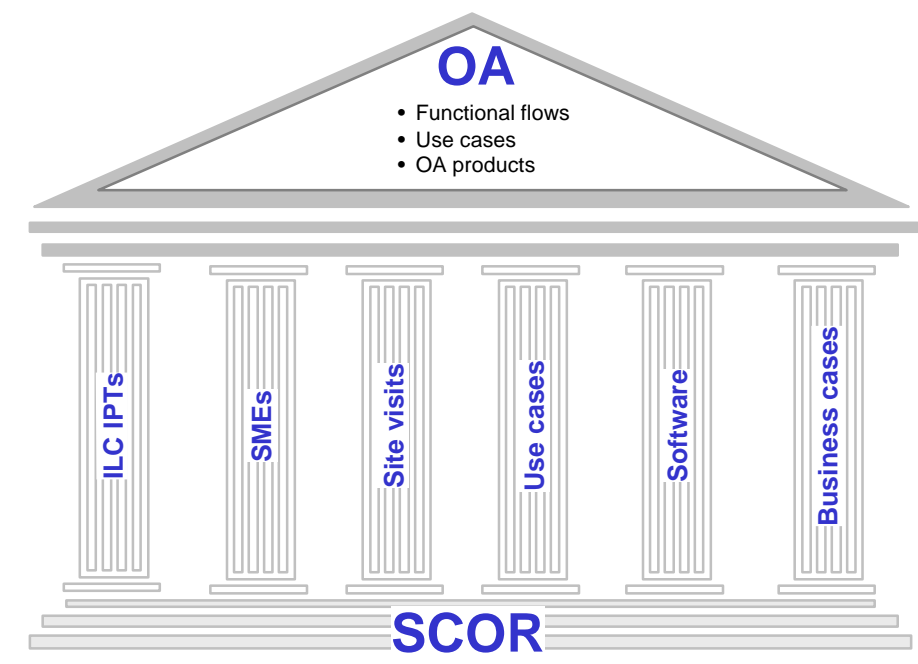
- υ Institutionalize best practice tools for acquisition and material management.
- υ Establish academic strategic alliances.
- υ Establish USMC strategic alliances.

Following this extensive study, the USMC began to design and implement a new operational architecture (OA). This effort has evolved and become a major strategic focus called the ILC.

DEVELOPING NEW LOGISTICS OPERATIONAL ARCHITECTURE

The next step in the ILC process was to develop the overarching operational architecture in which USMC would perform logistics functions to meet the emerging requirements of the Marine Corps. The OA used the SCOR framework to develop requirements and processes. The SCOR approach measures and documents existing processes and data and identifies the tools and practices needed for improvement. This approach, shown in Figure 2-2, includes the use of ILC IPTs, subject-matter experts (SMEs), site visits to best-in-class companies, USMC current-state use cases, commercial supply chain software vendors, and ILC business cases.

Figure 2-2. SCOR Approach to Operational Architecture

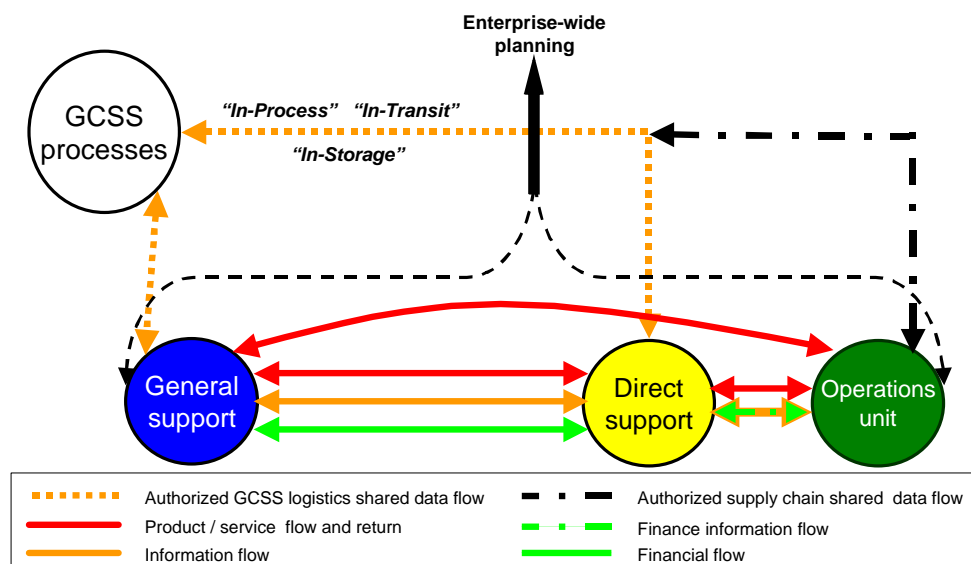


The objective in applying SCOR was to use a methodology that could leverage best commercial practices while developing a unified supply chain model for products and services across the future Marine Corps logistics enterprise. USMC

worked closely with the Supply Chain Council to apply SCOR metrics and processes to the USMC logistics environment.

The result was a “To-Be” operational architecture that focuses on the operational performance criteria suited to the expeditionary nature of Marine Corps operations. The “To-Be” ILC high-level OA provides an enterprise-wide, integrated view of logistics focused on fulfilling demands for products and services generated by the warfighter. It relies upon standard supply chain best commercial practices and performance measures, molded into a standard supply chain across the Marine Corps logistics enterprise. This high-level OA is provided in Figure 2-3.

Figure 2-3. High-Level Operational Architecture



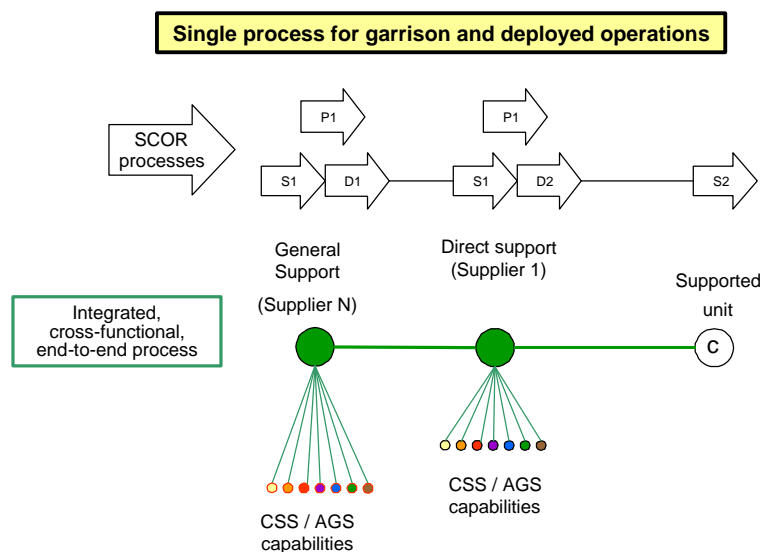
Process Architecture

The overall process architecture was developed to support the operational architecture concept. In short, this process architecture

- υ provides a single process for both deployed and garrison forces;
- υ provides a single point of contact to the supported unit for fulfilling its demands (for products and services);
- υ aligns with the SCOR model’s Plan, Source, Make, Deliver, and Return processes; and
- υ standardizes end-to-end processes across the functions of Marine Corps combat service support.

The future state developed from this architecture is illustrated in Figure 2-4.

Figure 2-4. Future State Process



Note: AGS = aviation ground support; CSS = combat service support; P1 = plan supply chain; S1 = source a stocked product; S2 = source a make-to-order product; D1 = deliver a stocked product; D2 = deliver a make-to-order product.

Information System Architecture

In order to support the functional requirements of GCSS-MC and the new operational architecture, an extensive review and redesign of the USMC logistics information technology systems has been undertaken using the SCOR methodology. The efforts involved with IT architecture are intended to

- u use the SCOR template to develop new procedures to evaluate existing logistics IT investments and rationalize these investments with the Marine Corps' operational architecture system realignment and categorization (SRAC), and
- u develop an architecture and migration strategy so that the Marine Corps can integrate data-sharing logistics information technology.

The result will be the blueprint for implementing an enterprise-wide information system that links all critical information elements in the supply chain. To date, the USMC has successfully eliminated redundant single-process systems, and will continue to carefully analyze existing systems and eliminate duplication where appropriate.

Planning Architecture

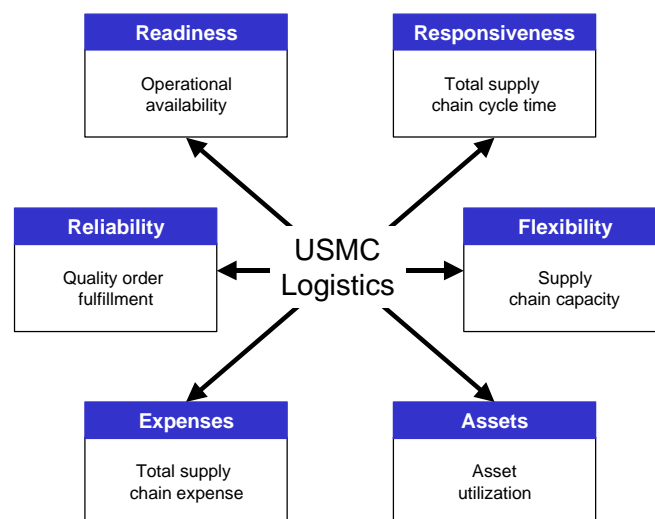
From the high-level operational architecture, USMC logistics developed the corresponding planning architecture to support future logistics operations. The planning architecture will

- υ enable request management, order management, and fulfillment processes;
- υ create planning processes that support logistics execution; and
- υ define the functional requirements of these processes in order to seek future-state IT enablers.

DEVELOPING BALANCED SCORECARD BASED ON SCOR METRICS

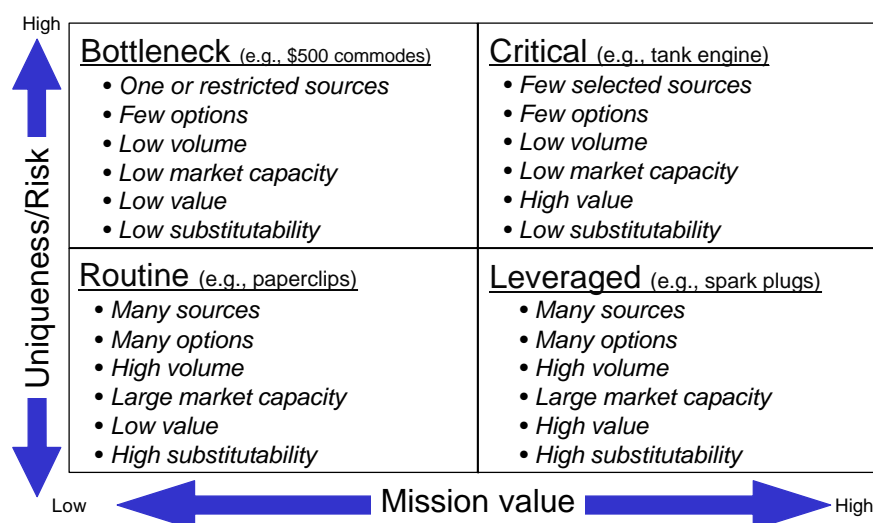
Once the operational architecture was developed, USMC logistics developed a balanced scorecard (BSC) of Level 1 SCOR metrics to measure the performance of the re-designed supply chain. The Level 1 metrics are divided into two general categories, operational (e.g., readiness, reliability, responsiveness, and flexibility) and financial (e.g., assets and expenses). These metrics drill down to Level 2 and Level 3 diagnostic metrics. This BSC is shown in Figure 2-5.

Figure 2-5. Proposed USMC Balanced Scorecard



The Marine Corps worked with the Supply Chain Council to modify these metrics to fit the expeditionary needs of the Marine Corps. For example, “readiness” was added to address a specific aspect of an operational performance metric critical to DoD operations that is not typically used by the commercial sector.

These metrics have been validated as the war on terrorism has evolved and the distribution channels to Afghanistan demanded that USMC logistics respond with agility and flexibility to support the warfighter.



-
- υ Second POC: Automated Receipts Processing (1st FSSG—Force Service Support Group). This POC is currently under development and is applying all facets of the SCOR methodology to achieve success.
 - υ Third POC: 2nd FSSG Maintenance, Supply and Distribution. Phase I of this POC has been implemented.
 - ™ Phase I: Maintenance
 - ™ Phase II: Supply and Distribution Processes
 - υ Fourth POC: Using Unit Supply and Maintenance Process (Selected Division/Wing Units). This POC is being developed.
 - ™ Infantry Regiments
 - ™ Heavy Maintenance Organizations
 - υ Fifth POC—Into the Future: Continued testing, modification and implementation.

Specific steps are further described below.

Centralized Management of Secondary Reparables

The USMC has initiated a program to establish a centralized, worldwide management capability for its inventory of SECREPs. This initiative was the outcome of our business process re-engineering efforts and our benchmarking results.

As a result of this initiative, SECREPs are no longer managed and owned by individual reparable issue points (RIPs). Each unit's and RIP's inventories are combined into a centrally visible pool. This concept will enable the Marine Corps to

- υ review stockage criteria from an enterprise perspective,
- υ review utility of alternative stockage tools and information technology,
- υ consolidate demand forecasting and calculation of requisition objectives,
- υ centralize visibility of all assets and attain total asset visibility,
- υ laterally redistribute assets, and
- υ take advantage of consolidated shipments.

Our SECREP inventory has been successfully reduced over the last year without impact to our operational readiness. Retail inventory has been decreased by \$18 million and the Wholesale inventory has successfully been reduced by \$59 million. Specific results are discussed in Section 2-6.

Automated Receipts Processing—Consolidation of Selected Supply Functions

Marine Corps logistics is currently identifying selected unit functions as candidates to be automated, eliminated, or moved to the intermediate level. By consolidating these functions, process efficiencies will be realized. These functions include

- υ auto receipts processing,
- υ financial accounting, and
- υ property accounting.

Move 2nd/3rd Echelon of Maintenance to Intermediate Level

This initiative combines the physical location of 2nd and 3rd echelons of maintenance functions into a single shop. Under this concept, 2nd and 3rd resources are consolidated and integrated at the Intermediate Level, thus performing the two echelons at the same location. This will further streamline the maintenance piece of the supply chain. It eliminates redundant procedures that occur during these two processes and allows maintenance shops to better leverage the time and skill of its workforce. The results of these initiatives are discussed further in Section 2-6.

4th EOM Migration

4th EOM work typically involves either rebuilding or recapitalization of assets. This capability is highly industrial in nature, and the Marine Corps does not produce the demand to justify a large investment of manpower and equipment to retain this capability at the battlefield. In addition, the distance from asset location to Marine Corps depot greatly increases cycle time for these actions.

The initiative will move management of 4th EOM to the Marine Corps Materiel Command (MATCOM) in order to divest the Marine Corps forward forces from the business of 4th level maintenance, transfer the function to MATCOM, and thus streamline the internal maintenance process in the supply chain. The steps in this strategy are

- υ reviewing required battlefield capabilities,
- υ identifying and validating current outsourced equipment, and
- υ identifying future outsourcing requirements.

Marine Corps Stock Positioning Initiative

Applying the concepts of best business practices from the SCOR model, the USMC logistics targeted DLA's distribution system for improvement. The Marine Corps worked with the DLA to improve supply support to forward-deployed

Marine units around the globe by having DLA position more wholesale stock in forward positions. The stock positioning initiatives were seen as a no cost opportunity to improve the sourcing of material. DLA agreed to position high-demand weapons systems support items closer to customers in the Pacific and European areas of operation.

The locations undertaking stock positioning initiatives are

1. Naval Air Station (NAS) Sigonella, Italy;
2. Yokosuka, Japan; and
3. Pearl Harbor, Hawaii.

Based on process analyses of the distribution channel in the supply chain, the Marine Corps determined that this pre-positioning initiative has the potential to significantly reduce Customer Wait Time, transportation costs, and potentially reduce USMC inventory investments overseas. This stock positioning effort is a key element of the National Inventory Management Strategy (NIMS).

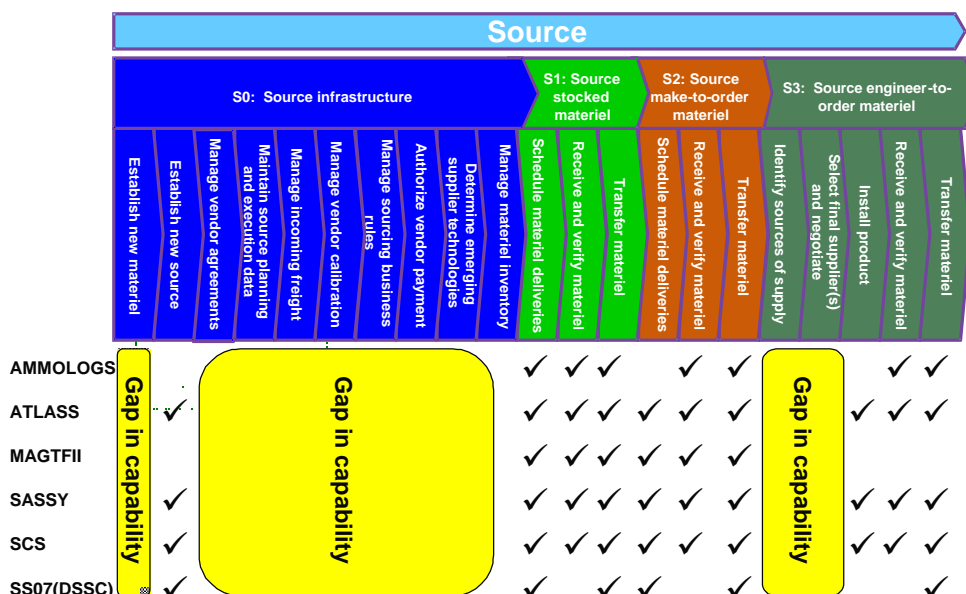
The results of these initiatives are discussed in Section 2-6.

Systems Realignment and Categorization

Systems Realignment and Categorization (SRAC) uses a deliberate and methodical approach based on SCOR principles to address current legacy logistics software systems that have redundant capability and functionality gaps. The Marine Corps applied the SCOR model to candidate software systems. Once the redundancy and gaps were identified, SRAC began migrating the functionality of existing information systems into the portfolio designed in the OA. Systems evolved through SRAC will be implemented under the umbrella of the GCSS-MC.

In other words, SRAC will identify and reduce redundant Marine Corps logistics applications and consolidate them into a smaller suite of systems that will meet the SCOR criteria for optimum supply chain performance and will support logistics most effectively through GCSS-MC. An example of the conceptual approach to applying SCOR to the SRAC process is shown in Figure 2-7.

Figure 2-7. SRAC Concept



The SRAC process is accomplished in three phases.

Phase 1

Phase 1 concentrates on identifying “no-value” automated information systems (AISs) and retiring them. This phase is complete.

Phase 2

Phase 2 identifies “low-value” AISs, retiring them, and migrating their functional capability into other systems. This phase is complete.

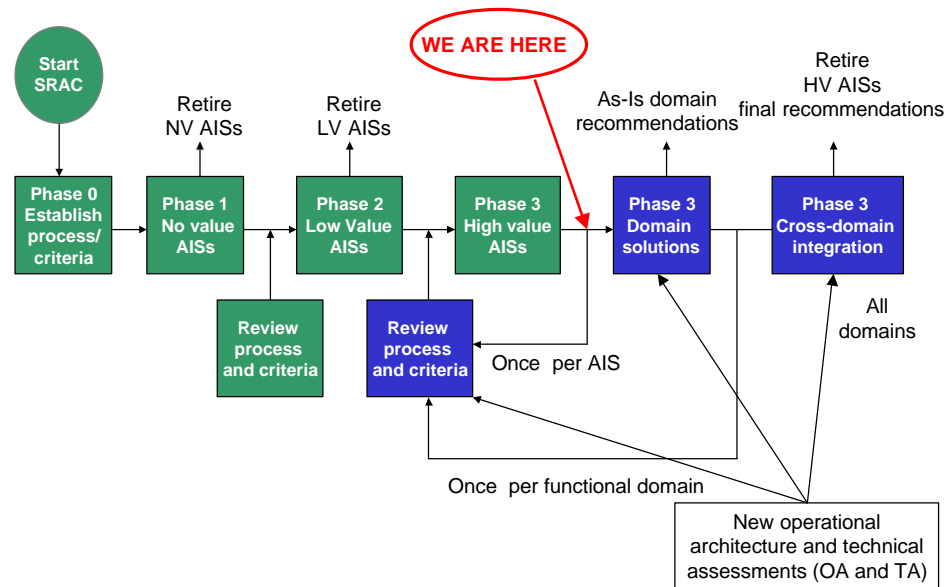
Phase 3

Phase 3 migrates and integrates the remaining “high-value” AISs that will support the new logistics OA and supporting information technology environment. At the same time, this phase will consider commercial off-the-shelf (COTS) and government off-the-shelf (GOTS) applications to replace certain functionality. It includes a rigorous analysis of the technology of each AIS, its documentation, and the support it will require. Phase 3 has four parts.

- υ Part 1—AIS data collection
- υ Part 2—AIS analysis
- υ Part 3—Domain solutions
- υ Part 4—Cross-domain integration

The SRAC process is shown in Figure 2-8.

Figure 2-8. SRAC Process



GCSS-MC

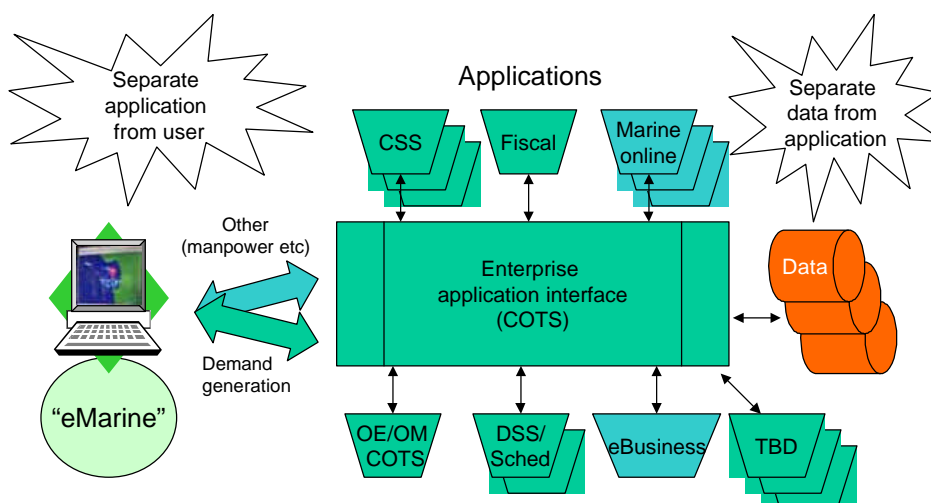
GCSS-MC is the physical implementation of the enterprise information technology architecture designed to support the new operational architecture created by ILC. It is not a single system, but a portfolio of Web-based IT capabilities tied to discrete performance measures.

GCSS-MC is pursuing a “bottom-up” approach to implementation by using existing programs and organizing by tasks in order to integrate logistics functions and capabilities such as

- υ core programs developed through SRAC,
- υ portfolio-selected core legacy systems, and
- υ COTS and GOTS solutions.

Full capability will occur between FY 2004 and FY 2006. The GCSS-MC concept of operations is shown in Figure 2-9.

Figure 2-9. GCSS-MC Concept of Operations



(4) SIGNIFICANT CHALLENGES, RESOLUTION PROCESSES, AND SOLUTIONS

During the evolution of Marine Corps logistics, several challenges have been encountered and either have been or are being addressed. The following are a representative sample.

End-To-End Process Versus Force-Centric View

The current DoD distribution and transportation process is largely based upon old business practices and processes. These are changing as all of DoD reviews, evaluates, and modernizes their internal and external support processes. Yet in applying today's process to support forces employed for the War on Terrorism in Afghanistan, a priority 01² resupply request averaged 44 days to reach the requesting unit. In conducting an internal USMC analysis of this problem, the response time could be reduced to 23 days without any major changes to DoD agency or service practices through the full implementation of our new SCOR-derived business practices. Additionally, if current programmed and planned changes to DoD agencies and services are achieved, the 44-day response has the potential to be reduced to less than ten days. The Marine Corps is working diligently to ensure that we provide the best possible support to the eighteen-year-old rifleman who is responding to our Nation's call.

The traditional logistics efforts were focused on supporting a Marine Expeditionary Force (MEF) with a collage of support sources. The SCOR approach allowed the Marine Corps to align support from an end-to-end (E2E) perspective.

² A priority 01 resupply request can be submitted only by a unit engaged in support of combat operations.

The E2E initiative focuses on employing a functional manager to manage a product or service throughout the planning, logistics operations, and execution phases. Effectively this process offers the supported unit a single point of contact for seeking support for specific products or services. This approach considerably decreases the size of the “phone book” a MEF must carry on deployments and reduces the training requirement by simplifying processes.

Cultural Issues

Mature organizations traditionally become very good at what they initially are tasked with doing. However, as outside factors change, the formerly high performing organizations are faced with the need to improve the way they work and to accept new business processes, and possibly new suppliers and customers. These organizations typically encounter

- υ reluctance to accept these changes,
- υ lack of faith in the reliability of the new system, and
- υ failure to recognize the value of having alternative sources of products and services.

Through our collaboration with the Supply Chain Council, the Marine Corps recognized that transformational change could not occur without the support and buy-in from our active duty and civilian Marines to address cultural issues.

To help resolve these issues, the Marine Corps instituted an education program for logistics-related topics, adopted integrated teams to develop solutions and new processes, and conferred with PSU, Dell, and Barnes & Noble.

New Business Practices

As new customer requirements and expectations evolve, aligning the existing business activities with new business rules is required.

The ILC addresses many of the process changes involved with current performance improvements by developing specific enablers, like new or integrated software, to facilitate the change process.

Partnerships with Other Agencies

One of the key lessons learned during the post September 11 activities and the ensuing war on terrorism was that the Marine Corps has deep ties to the logistics systems of other agencies, and that the Corps was actually operating parallel logistics systems to satisfy their logistics needs. Our success was tied to the success of other systems we did not control. In addition, because of the organizational ties

with the U.S. Navy, the Marine Corps logistics systems more closely resembled the Navy logistics systems than those of other agencies.

As a result, the Marine Corps has recently initiated partnerships with DLA and the U.S. Navy for providing logistics support to the Marine Corp's supported units. The Marine Corps' willingness to give up the "not invented here" mentality has prevailed as the need for increased agile response to our forces in Afghanistan has become paramount to our success. In addition, contractor logistics support has been initiated for platforms like the Medium Tactical Vehicle Replacement (MTVR) (Oshkosh Truck), the Advanced Assault Amphibious Vehicle (AAAV) (General Dynamics), and construction vehicles (e.g., Caterpillar).

Overcoming the Status Quo

Complacency is a key obstacle to improving performance. For logistics, changing factors have demanded shorter cycle times, decreased costs, and higher quality products and services. Complacency with these changes in customer demands can result in further degradation in faith with the formal logistics system, and will prompt customers to find alternative means to satisfy their needs.

Our greatest challenge is to convince our forward forces that they should not accept status quo as good enough. They should "expect" no less from the Marine Corps' supply system than they would from a commercial supplier delivering a product to their home.

The Marine Corps has addressed the issues related to acceptance of the status quo with education and participation through surveys and integrated teams.

Financial Support for New Technologies

New technologies and methods generally require some form of evaluation and proof of concept. The use of limited funds to assess new technologies and methodologies must contend with very competitive alternatives. Therefore, nurturing an advocate to support logistics initiatives is the key to success for this challenge and is an ongoing activity.

Corporate Buy-In for Portfolio Approach of GCSS-MC

The GCSS-MC creates a portfolio of systems (e.g., force deployment, resource management, purchasing/procurement) and integrates them across 30 core systems (e.g., financial management and human resources). The information related to these portfolios and systems is managed in a shared data environment (SDE) to improve the effectiveness and efficiency of information management.

This represents a change to the traditional relationships involved with Marine Corps business practices. Therefore, buy-in across all leadership positions and

related organizations is necessary. Education and teaming effort are being used to facilitate this evolution.

Ensuring Decision Support for Commanders in Chief

The Shared Data Environment (SDE) will integrate an enormous amount of information. The SDE then provides a platform for analyzing the available data to create new and innovative linkages, and presents a potential to provide information to senior leaders to assist them with their decision-making.

Working with the staffs of the Commanders in Chief (CINCs) to identify information requirements, as well as educating them about the information available through the SDE, is working well for establishing the foundation for this effort. Our objective of providing a results-driven end-to-end distribution success is the quickest way to attain CINC support.

Keeping Ahead of the SRAC Plan

System Realignment and Categorization uses a deliberate and methodical approach based on SCOR principles to address legacy logistics software systems that have redundant capability and functionality gaps.

To accomplish the tasks assigned to SRAC, an aggressive schedule is being executed to complete the assessment of more than 200 logistics systems against five key functions of the SCOR model. The review of these systems is scheduled to be completed in the Fall of 2002. SRAC concepts and methodologies are being applauded as a unique effort within the DoD and the federal government to rationalize the investment in legacy information technology.

Participation in SRAC

To accommodate the aggressive SRAC schedule described above, the Marine Corps has employed teams across all Marine Corps logistics functional areas to conduct the requisite assessments and develop comprehensive AIS migration and integration strategies. This effort employs a large number of people for relatively short periods.

To maintain the level of effort necessary to meet the SRAC schedule and performance requirements, education and information sharing is used to keep everyone informed about progress and past findings. Education and the use of virtual Web-based collaborative team rooms have enabled the successful execution of the SRAC process.

Satisfying Requirements for Operational Maneuver from the Sea

Intense operations with little or no time to preposition forces in the traditional sense require a sea-based force with exceptional logistics response capability.

The key benefit of Operational Maneuver from the Sea (OMFTS), or sea basing, is the reduction of the logistics footprint ashore. Although the DoD has mandated sea basing, this method of operation requires a buy-in and planning before it can be made a successful reality.

Both of these issues have been addressed by focusing logistics efforts on the modern MAGTF, and by integrating the benefits of the initiatives that span the spectrum of information management, supply chain management, and life-cycle management.

(5) METRICS USED TO MEASURE PROGRESS AND PERFORMANCE

Measuring Progress

Specific metrics to track progress and measure success such as milestones and budget variances have been developed and are being refined. Initiatives begun under the Marine Corps Logistics Campaign Plan, the ILC Program, and GCSS-MC are on schedule and within budget.

Using Balanced Scorecard Based on SCOR Metrics to Measure Performance

The ILC used the SCOR methodology to create a Balanced Scorecard (BSC) of Level 1 SCOR metrics for the proposed OA. These Level 1 metrics drill down further to Levels 2 and 3 diagnostic metrics.

LEVEL 1 METRICS

The Marine Corps teamed with the Supply Chain Council (SCC) to develop a balanced scorecard of metrics tailored to measure logistics operations within the Marine Corps. This included identifying the success factors unique to a military operational environment and translating them into measurable outcomes. Except for readiness, the Marine Corps relied on commercially accepted metrics (from the SCOR model, modified to a DoD equivalent)

The SCOR Level 1 metrics proposed are divided into operational metrics and financial metrics. Table 2-2 lists these metrics with examples of each.

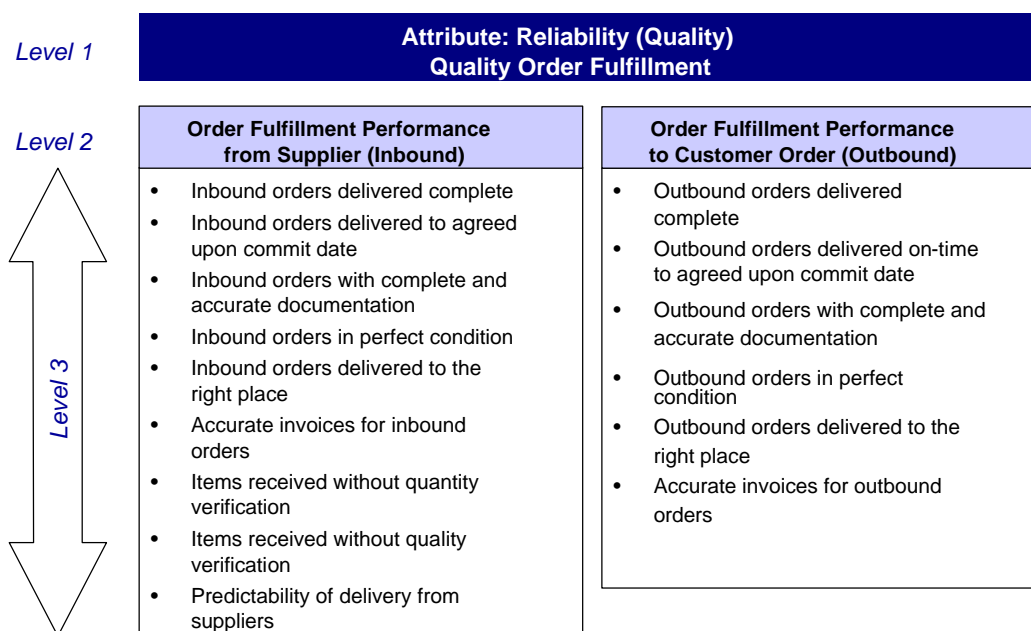
Table 2-2. Proposed SCOR Level 1 Metrics

Metric	Example
Operational	
Readiness—unique to the Department of Defense	Operational availability
Reliability	Quality order fulfillment
Responsiveness	Total supply chain cycle time
Flexibility	Upside supply chain capacity
Financial	
Assets	Asset utilization
Expenses	Total supply chain expenses

LEVELS 2 AND 3 METRICS

Once USMC logistics laid a foundation of Level 1 metrics, they developed level 2 and level 3 metrics that drill down from the Level 1 performance attributes. The Marine Corps will apply commercial comparative metrics as applicable to gain the desired performance/outcome from the supply chain. An example (for reliability) is shown in Figure 2-10.

Figure 2-10. Level 2 and Level 3 SCOR Metrics for Reliability



(6) COST AND PERFORMANCE BENEFITS

The initiatives developed through the three SCOR-focused programs are already achieving many improvements to the Marine Corps supply chain. These are quantifiable in both the operational and financial terms laid out in a balanced scorecard.

Marine Corps Logistics Campaign Plan

Many of the initiatives identified in the Campaign Plan have already improved supply chain performance.

LIFE-CYCLE MANAGEMENT OF VEHICLES

The specific task to decrease fuel consumption and greenhouse gas emissions has already proved extremely successful.

- υ To date, the Marine Corps has achieved a savings of 16 percent of fuel costs for non-tactical fleet vehicles through innovative conversion of gasoline using vehicles to alternative fuels or drive configurations, such as methanol, ethanol, or hybrid electric drives.
- υ In addition, the Marine Corps is beginning initiatives to reduce fuel consumption of tactical vehicles through modifying current equipment to hybrid engines (electric vehicle powered by an onboard fossil fuel driven generator). The potential result will be a minimum 40 percent reduction in fossil fuel needed to support these vehicles and; therefore, a substantial decrease in logistics support. The future viability of Sea-basing as a component of Expeditionary Maneuver Warfare is directly related to minimizing the MAGTF fuel burden, costs which are not reflected in the price of wholesale fuel, but lost in the substantial infrastructure necessary to provide fuel to the warfighter on the battlefield. As an example of the enormity of the challenge, approximately 70 percent of all cargo moved intra-theater during Desert Shield/Storm was fuel and fuel support equipment. The costs of providing fuel to the warfighter increase exponentially as the deployment from the Sea-base increases. Aggressive implementation of current and developing fuel efficiency initiatives into modifying current and replacement equipment enables the warfighter to increase his operating area while reducing his logistics footprint.

Marine Corps Stock Positioning Initiative

Forward stock positioning at NAS Sigonella, Yokosuka, and Pearl Harbor are cited as a primary cause of a recent drop of almost 20 days in wholesale CWT across the Marine Corps.

This initiative is expected to produce further improvement in supply chain performance because it will enable SCOR-related best business practices including the following:

- υ Asset tracking and pipeline visibility derived from the point of sale (POS),
- υ The ability to allow DLA to anticipate demand and provide better service at reduced cost (The reductions in cost should be achieved through transportation savings and reducing the number of last-minute procurements.),
- υ Rapid supplier (e.g., DLA) response to fluctuations in the supply chain through improved forecasting,
- υ Flexibility for the asset manager to buy from existing commercial supply chains and deliver directly to retail activities,
- υ A reduction in service retail inventory investments held at retail activities, and
- υ The enabling of the Marine Corps to build virtual supply chains and tie them to existing DoD supply chains, such as DLA.

SRAC

To date, SRAC has

- υ identified and retired 30 unused or no-value AISs;
- υ identified 13 low-value AISs, 6 have been retired, and the remaining 7 have been designated for further study; and
- υ completed initial functional and technical assessments of an additional 150+ AISs in the specific logistics functional areas of transportation, maintenance, and supply.

In addition to these benefits, SRAC is anticipated to produce additional benefits in the near future. The program is currently

- υ recommending reducing AISs directly used by USMC from 21 to 10 for transportation systems, and
- υ using the functions mapped in SCOR and cross-referenced to existing AISs to identify high-value AISs for migration and retirement.

SECREP Consolidation

The SECREP Consolidation initiative has demonstrated both operational and financial improvements within Marine Corps logistics. Between October 2000 and November 2001, the SECREP program has measured:

- υ no decrease in readiness,
- υ \$3.5 million in savings due to redistribution of SECREPs between RIPs,
- υ a decrease in retail inventory of \$18 million, and
- υ a decrease in wholesale inventory of \$59 million.

Analysis also shows a potential 50 percent reduction in inventory at each RIP and an estimated 43 percent reduction (\$8.7 million to \$4.97 million) in the cost to fill all deficiencies.

2nd and 3rd Echelons of Maintenance Consolidation

The proof of concept for this initiative began in July 2001 for 2nd FSSG. All data are very preliminary at this point. However, they indicate the following:

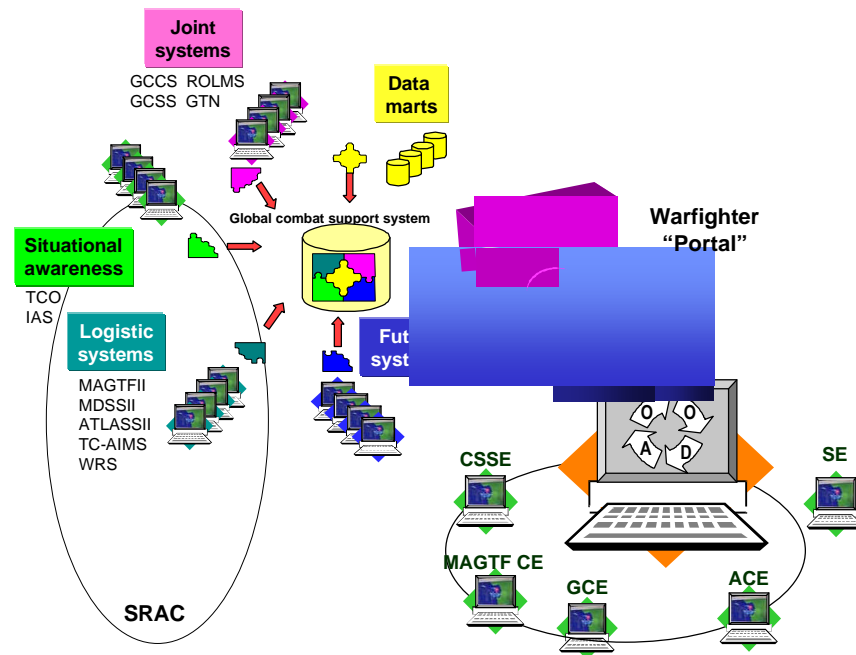
- υ Repair cycle time may be decreasing and becoming less variable than in the past:
 - ™ median repair cycle time decreased by 20 days (70 percent) between November 2000 and November 2001, and
 - ™ 95 percent of repair tasks were completed in 100 days or fewer in November 2001, compared to 133 days in November 2000.
- υ Customer wait time appears to be shorter and less variable than in the past:
 - ™ median CWT decreased by 9 days (60 percent) between November 2000 and November 2001.
- υ Although there was an initial drop in readiness (operational availability) due to a one-time increase in the amount of maintenance on inducted vehicles, readiness has bounced back to original levels and is anticipated to remain the same or increase.

GCSS-MC

GCSS-MC has put into place a prototype that demonstrates the validity of the system design. The prototype provides a single portal in which users will access several applications via a middleware application. Figure 2-11 illustrates the prototype.

The success of the prototype enables the program to move into the next phase of development. In recent tests, the order entry phase was tested by forces in Afghanistan to verify the total connectivity of our ILC/GCSS-MC system design.

Figure 2-11. IT Warfighter Portal Prototype



(7) SUPPORT OF ORGANIZED OBJECTIVES

As discussed in Section 1, the overall objectives of these Marine Corps logistics improvements are to improve information management, supply chain management, and life-cycle management. This application has highlighted the key initiatives described in Section 2-6 that have enabled the Marine Corps to fully engage the logistics challenges presented by the events of September 11 and the ensuing war on terrorism.

Table 2-3 describes how these initiatives support the overall objectives that helped enable successful Marine Corps operations over these trying times. Since these initiatives cut across the balanced scorecard, each initiative plays a vital role in supporting continued success of the supply chain. The future direction of these initiatives is highlighted in the "Way ahead".

As discussed in Section 2-5, SCOR provided the foundation upon which the Marine Corps developed a balanced scorecard for logistics (Figure 2-5). SCOR has proven to be the tool the Marine Corps needed for

- υ presenting a framework for planning logistics improvements,
- υ planning the initiatives,

• articulating objectives, and

• measuring progress.

Table 2-3. Initiatives Supporting Organizational Objectives

Initiatives	Results	How supported objectives	"Way ahead"
Campaign plan	<ul style="list-style-type: none"> Fuel savings in non-tactical vehicle fleet of 16 percent Research of alternative engines for tactical vehicles has begun. 	This overall Plan has promoted more effective information, supply chain, and life-cycle management	Continue to track progress on Campaign Plan initiatives
Stock positioning	<ul style="list-style-type: none"> Decrease of 20 days for wholesale CWT 	Improved supply chain management (inventory)	Continue to collaborate with DLA on the National Inventory Management Strategy
SRAC	<ul style="list-style-type: none"> 30 no-value AISs have been retired 13 low-value AISs have been identified; 6 have been retired Started making recommendations for retirement of high-value and transportation AISs 	Improved information management	Finalize legacy AIS migration strategy
SECREP	<ul style="list-style-type: none"> Saved \$3.5 million by redistributing SECREPs among RIPs Decreased retail inventory by \$18 million Decreased wholesale inventory by \$59 million 	Improved supply chain and life-cycle management	Capitalize inventory under Navy Working Capital Fund, and enable new processes through information technology
4th EOM	<ul style="list-style-type: none"> Expanded flexibility by starting to use DoD and commercial sources for industrial work 	Improved supply chain and life-cycle management	Continue to look for opportunities to partner with industry, and ways to enable new process through information technology
Maintenance consolidation	<ul style="list-style-type: none"> Preliminary results show decreased repair cycle time and shorter and less variable customer wait times while maintaining readiness 	Improved supply chain and life-cycle management	Continue to refine maintenance processes, and enable new processes through information technology
GCSS-MC	<ul style="list-style-type: none"> Prototype is being assessed 	Improved information management	Enable supply chain processes through information technology

Section 3

Knowledge Transfer

(1) SHARED LESSONS

Communication and education have been a priority of USMC logistics from the start. Educating personnel on the fundamentals of supply chain management and the SCOR model is not only essential for passing along lessons learned, but also for helping transform the Marine Corps culture itself.

USMC logistics employs numerous methods to report the progress of initiatives, seek input and participation, and share lessons learned from both the current and pilot projects for “To Be” processes. The success of internal communications depends on both formal and informal communications.

The following methods are used most effectively to communicate progress, participation, and lessons learned within the Marine Corps:

- υ *Web site*—The Marine Corps logistics web site, <<http://www.hqmc.usmc.mil/lpi.nsf>>, communicates general information related to, among other issues, the initiatives being evaluated and developed to improve logistics performance to the supported units. Everyone in the Marine Corps has access to this internet site. During 2002, the Web-based Logistics Information Resources (IR) Plan will provide an interactive and current source of information related to IR strategies, plans, guidance, and implementation.
- υ *Situation Reports (SITREPs)*—Both weekly and monthly SITREPs are used to communicate the status of progress of logistics initiatives to leadership and staff in the logistics community. A roundtable forum is used for the monthly reports, which are broader in scope and less detailed than the weekly reports because of the timeframe involved.
- υ *General Officer Symposium*—This forum provides the opportunity for logistics senior leadership to describe current performance and future enhancements to other senior leaders in the Marine Corps, and to identify advocates for each of the potential and current improvement initiatives.
- υ *Marine Corps Logistics Education Program (MCLEP)*—This 12-day course in commercial logistics practices held at Pennsylvania State University is convened twice a year. Begun in 2000, the course targets mid-level career officers and enlisted personnel to teach them the fundamentals of how industry is conducting logistics. This course is intended to promote

development of the logistics profession within the Marine Corps. In addition, this training provides a forum for networking so that each trainee can learn from his counterparts. The Marine Corps has also started a Marine Corps Supply Chain Management Course, which is a condensed 5-day version of the MCLEP that is provided for the operating forces.

- υ *Informal communications among the supply community*—A supply element is in place at each node along the supply chain, and informal communication among the people at these nodes is a source of innovative and effective ideas to improve delivering supplies to supported units.
- υ *Periodicals*—various periodicals like Centerhead Notes and Journal Records are used to communicate a variety of topics including logistics issues to all components of the Marine Corps. These periodicals reach operating as well as support organizations.
- υ *Informal communications with fleet managers*—Like other forms of informal communication, this forum allows fleet managers to discuss transportation problems and alternative solutions.
- υ *Global Combat Support System Management Committee*—This committee brings together the numerous operating and support elements of the encompassing GCSS initiative and facilitates both formal (charter-specific) and informal communications to identify common problems and solutions.
- υ *Portfolio Management Board* (includes members of operational forces)—this Board will manage the portfolios across all systems and provides a forum to identify both obvious and hidden linkages among operating and support elements.
- υ *SRAC Core Team*—although the core team is primarily chartered to “recommend” domain-level AIS migration and cross-domain integration strategies, the six supporting logistics functional domains are working individually and collectively to assure that Marine Corps legacy logistics processes and systems are moving towards the objectives of the new logistics OA. SRAC is paving the way for a new integrated “system of systems” capability for logistics support, the Global Combat Support System, Marine Corps (GCSS-MC).

(2) INITIATIVE TRANSFER AND CANDIDATES

The two key lessons that will be very helpful to other organizations are to

- υ follow an enterprise-wide approach for logistics improvement initiatives, and
- υ adopt an approach similar to the Marine Corps for implementation (i.e., updating processes first, and then molding IT changes around the updated processes).

Across DoD

The transformation of logistics has far-reaching impact across all of DoD. In fact, DoD has initiated many of these logistics initiatives, like the GCSS. The DoD GCSS will create a shared data environment across all services and DoD components. In addition, service conferences create opportunities for counterparts to identify common problems and solutions, and to create initiatives that will provide benefit across the department.

A variety of government and professional association conferences provide similar forums, many times including commercial input into the mix of solutions. The Stock Positioning Integrated Process Team offers similar benefits for all domains of logistics support. For innovations in fuels and fuel usage, the Interfuel Committee and the Federal Fleet Meetings offer fleet managers the opportunity to investigate and identify common problems and solutions among their counterparts.

Other Armed Forces

Besides our own partner services, the armed forces of our allies will likely find the logistics improvements identified in this application relevant. Using concepts such as ILC for process management, SRAC for legacy application analysis, GCSS-MC for portfolio management, NIMS for supply management, and automatic logistics for life-cycle management could be particularly beneficial, considering that multinational responses will become increasingly common during an era of terrorism.

Non-Military Logistics Forums

Over the past 4 years, the Marine Corps has developed a true partnership with Pennsylvania State University and the Supply Chain Council to apply the precepts of the SCOR model to logistics related to national defense. This relationship identified industry best practices and other opportunities for improvement and benchmarking. Numerous conferences offer opportunities to share lessons learned and share knowledge among participants.

Going Forward

As the USMC continues to respond to the war on terrorism and as our logistics capability develops, opportunities for sharing lessons-learned will abound. The scope, and the sweeping nature of the changes being sought, will provide a wealth of materiel to share with both military and commercial organizations alike. Also, mutual sharing of experiences and lessons-learned will be the way for military logistics to keep in step with the ever-increasing pace of commercial logistics change.

The Marine Corps is routinely invited to discuss our supply chain initiatives with a variety of forums. Typical organizations that indicate an interest in learning more about and partnering in selected initiatives include other DoD and non-DoD government organizations, fleet operators, and managers of large inventories.

Going forward, the Marine Corps will continue to enhance logistics supply chain concepts, and implement them within the GCSS-MC portfolio management program. The scope of our supply chain evolution underscores our sustained commitment to making the changes necessary to ensure that the Marine Corps provides the best logistics support possible to our expeditionary operating forces.

The war on terrorism is certain to continue. It will require support for multiple, simultaneous engagements and agile response to asymmetric threats.

For the future, the Marine Corps will continue to pursue logistics supply chain excellence. Our mission is to provide the tools and processes necessary to enable the Marine Corps' forces to respond to new crises in the 21st century and to continue to fulfill our role as the **Nation's "911" Force**.

Appendix

Abbreviations

AAAV	Advanced Assault Amphibious Vehicle
AGS	aviation ground support
AIS	Automated Information Systems
AL	Autonomic Logistics
BSC	balanced scorecard
C	customer
CINC	Commander in Chief
CLS	contractor logistics support
COTS	commercial off-the-shelf
CSS	combat service support
CSSE	Combat Service Support Element
CWT	customer wait time
D1	deliver a stocked product
D2	deliver a make-to-order product
DDDE	Defense Distribution Depot Europe
DDPH	Defense Depot Pearl Harbor
DDYJ	Defense Depot Yokosuka, Japan
DLA	Defense Logistics Agency
DoD	Department of Defense
E2E	end-to-end
EB	electronic business
EC	electronic commerce
EO	Executive Order
EOM	Echelon of Maintenance
FSMAO	Field Supply and Maintenance Analysis Office
FSSG	Force Service Support Group
GCSS-MC	Global Combat Support System, Marine Corps
GOTS	government off-the-shelf

HQMC	Marine Corps Headquarters
I&L	U.S. Marine Corps, Installations and Logistics Department
ILC	Integrated Logistics Capability
IR	information resources
IT	information technology
LPE	Headquarters Marine Corps, Engineer Advocacy Center
MAGTF	Marine Air-Ground Task Force
MATCOM	Marine Corps Materiel Command
MCLCP	Marine Corps Logistics Campaign Plan
MCLEP	Marine Corps Logistics Education Program
MEF	Marine Expeditionary Force
MTBF	mean time between failures
MTVR	medium tactical vehicle replacement
NAS	Naval Air Station
NIMS	National Inventory Management Strategy
OA	operational architecture
OGA	other government agencies
OMFTS	operational maneuver from the sea
P1	plan supply chain
POC	proof of concept
POS	point of sale
PSU	Pennsylvania State University
Quad	The Quadrant Model
RIP	reparable issue point
S1	source a stocked product
S2	source a make-to-order product
SCC	Supply Chain Council
SCOR	Supply Chain Operational Reference
SDE	Shared Data Environment
SECREP	secondary reparables
SITREP	situation report
SME	subject-matter expert

SRAC	Systems Realignment and Categorization
TAV	total asset visibility
USMC	U.S. Marine Corps
WIPT	working integrated process team

